REMARKS

Claims 1 and 7 are pending in this application. Claims 1 and 7 are independent claims.

Reconsideration in view of the following remarks is respectfully solicited.

Copies of Initialed PTO-1449 Requested

Applicant respectfully requests a copy of the initialed PTO-1449 submitted on October 26, 2004.

In reviewing the application file, the undersigned has noted that the appropriate initialed Form PTO-1449 in response to the Information Disclosure Statement (IDS) filed on October 26, 2004 has not been received by Applicant. The Examiner is therefore requested to return a copy of the initialed Form PTO-1449 to the undersigned as soon as possible.

The Claims Define Patentable Subject Matter

The Office Action makes the following rejections:

(1) claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over Abe U.S. Publication No. 2002/0056134 A1 to Abe et al. (hereafter Abe) in view of U.S. Patent No. 5,994,965 to Davis et al. (hereafter Davis); and

(2) claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Abe, Vorenkamp, Shahar and Johannes.

These rejections are respectfully traversed.

Applicant respectfully submits that the combination of references as listed above fails to teach or suggest each and every feature as set forth in the claimed invention.

The combination of Abe and Davis

Applicant respectfully submits that the combination of Abe and Davis is not only improper, but also that the claimed invention as set forth in claim 1 is distinguishable from the improper combination of Abe and Davis.

First of all, in response to our argument that Abe fails to teach or suggest a "power amplifying circuit for power amplifying a data signal that is gain controlled by a gain control circuit", the Examiner inappropriately responds that "an amplifier inherently constitutes a power amplifier." (see office Action, page 8).

Applicant respectfully submits that the Examiner's statement noted above is not only inaccurate but a misquote of Hill. (see Office Action, page 2, footnote). For example, the Examiner states that "where an amplifier produces an output signal with more power than the input signal, an amplifier is inherently a power amplifier" (see Office Action, page 2). As such, the Examiner uses this statement to categorize Abe's variable gain control amplifier 502 as a power amplifier.

However, the Examiner has failed to show where Abe teaches that the output of amplifier 502 produces more power than the input of amplifier 502. Abe merely teaches that the upstream signal is gain-controlled by the variable gain control amplifier 502. (see Abe, page 5, paragraph [0069]. In other words, Abe expressly

denotes amplifier 502 as a control amplifier, not a power amplifier. As for the output of amplifier 502, Abe is completely silent about more power being seen at the output of amplifier 502. As such, we fail to see how Abe's amplifier 502 is inherently a power amplifier. Not all amplifiers are inherently power amplifiers.

Furthermore, applicant submits that Abe's disclosure strongly suggests that amplifier 502 is a voltage amplifier instead of a power amplifier. For example, throughout the disclosure of Abe, Abe refers to an overvoltage protection circuit being used therein. In addition, Abe illustrates in Figs. 5B and 5C comparison voltages being used in relation with the variable gain control amplifier 502. As such, we believe Abe's amplifier 502 suggest at most a voltage amplifier, not a power amplifier.

Furthermore, the Examiner has failed to address the point that the signal going into the power amplifier is a data signal which has been gain controlled by the gain control circuit. As such, even if Abe's amplifier 502 was a power amplifier, which we believe it is not, the signal going into Abe's amplifier 502 fails to be a signal which has been gain controlled by a gain control circuit.

Secondly, we previously argued that Abe fails to disclose transmitting a control signal to the at least one power amplifying circuit for controlling transmission/interruption of the data signal. In response to this argument, the Examiner merely states that "the control signals cited from Abe are analogous to the claimed subject matter, as set forth in the new rejection of claim

1." (see Office Action, page 8). However, as mentioned above, Abe fails to disclose a power amplifier that takes a gain controlled signal and power amplifies it.

In fact, the Examiner concedes that Abe fails to disclose a gain controllable gain control circuit and a power amplifying circuit which power-amplifies the data signal having been gain controlled by the gain control circuit. (see office Action, page 2, last sentence).

As such, we fail to see how on one hand Abe fails to disclose a gain control circuit and a power amplifying circuit which power-amplifies the data signal having been gain controlled (as conceded by the Examiner), and on the other hand discloses transmitting the control signal to the undisclosed power amplifying circuit. The Examiner appears to be confused on this point.

In essence, the Examiner is attempting to selectively pick individual parts of the claimed invention from Abe and other parts of the claimed invention from Davis and paste them together to form the claimed invention. However, in doing so, the Examiner is missing key aspects of the correlation between features of the claimed invention.

Specifically, in an attempt to make up for the deficiencies found in Abe, the Examiner imports Davis and the Examiner alleges that Davis discloses a variable-gain amplifying circuit comprising a gain controllable gain control circuit (variable attenuator 25) for receiving a data signal, and a power amplifying circuit (high-power amplifier 330) power-amplifying the data signal having been

gained controlled by the gain control circuit. (see Office Action, page 3, 1st paragraph; Davis, Fig. 7).

As such, the Examiner alleges that by incorporating Davis's variable attenuator 25 and high-power amplifier 330 into Abe's cable modem tuner, the claimed invention as set forth in claim 1 would have been obvious. However, we disagree with this allegation.

For example, as already noted, Abe fails to be concerned with or disclose any type of power amplification. Abe merely discloses controlling the gain, nothing is expressly mentioned nor suggested about power amplification. In fact, Abe mentions nothing about power. As such, we believe it is absolutely improper to combine Abe with the power amplification teachings of Davis because Davis is mainly concerned with high power amplification not gain control.

From our review of both Abe and Davis, we find no teaching or suggestion to support the Examiner's asserted motivation to combine the references so as to automatically maintain a predetermined overall gain in a cable modem upstream transmitter. We believe the Examiner's motivation statement is unsupported because the Examiner has not established that maintaining a predetermined overall gain in a cable modem upstream transmitter is a factor even recognized by Abe.

To summarize, the Examiner alleges that it is obvious to include Davis' variable attenuator 25 and high power amplifier 330 (see Davis, Fig. 7) into the system of Abe. However, even if

Davis' variable attenuator 25 and high power amplifier was substituted into Abe system in place of the transmission processing section 206, the combination of parts would still fail to make the claimed invention obvious because Davis' high power amplifier 330 fails to have a control signal transmitted thereto, as set forth in the claimed invention.

Again, both Abe and Davis fail to properly disclose at least one power amplifying circuit having a control signal being transmitted thereto. For instance, Abe doesn't even disclose a power amplifier receiving a gain controlled data signal and Davis' power amplifier doesn't have a control signal transmitted thereto. As such, both Abe and Davis are deficient in this area.

The combination of Abe, Vorenkamp, Shahar and Johannes

The Examiner also alleges that the combination of Abe, Vorenkamp, Shahar and Johannes discloses the claimed invention as set forth in independent claim 7.

In response to our previous arguments, the Examiner made the following comments:

First of all, the Examiner merely states that the combination of Abe, Vorenkamp, Shahar, and Johannes teaches the claimed invention. (see Office Action, page 8).

Specifically, the Examiner alleges that Abe discloses an upstream circuit 200, a duplexer 201 & 101, a return pass circuit

206 and a variable-gain power amplifying circuit 502. (see Office Action, page 3). Then the Examiner goes on to state that, however, Abe fails to disclose an up converter, a SAW filter, a down converter, and the detailed structure of the variable gain power amplifier 502 comprising two separate elements as set forth in the claimed invention. (see office Action, page 4).

As noted above in the rejection of claim 1, the Examiner again uses the combination of Abe and Davis to allegedly teach the power amplifying circuit as set forth in the claimed invention. Our arguments made above pertaining thereto are equally applicable here.

Furthermore, the Examiner alleges that Vorenkamp discloses a cable modem tuner comprising a receiving unit for receiving a down signal from a CATV station (page 34, paragraph 404), wherein said receiving unit includes an up-counter (first mixed 506 and amplifier 514) for converting said down signal to a first intermediate frequency signal of higher frequency (page 7, paragraph 118), a filter for selecting the first intermediate frequency signal output from said up converter (band pass filter located between amplifiers 514 and 516), and a down converter (amplifiers 516 and 518, second mixed 508) converting the first intermediate frequency signal selected by said filter to a second intermediate frequency signal of lower frequency for output. (See Office Action, page 4, 2nd paragraph, Vorenkamp, Fig. 5).

The Examiner admits that Vorenkamp fails to explicitly disclose said filter is a SAW filter and said SAW filter is formed of an

oscillation circuit including a print coil or an air coil. To make of for the deficiencies of Abe, Davis and Vorenkamp, the Examiner alleges that Shahar discloses a SAW filter for the purpose of lowering cost (col. 9, lines 4-6) and additionally, Johannes discloses a SAW filter formed of an oscillation circuit (resonator) including a print coil (printed strip lines in Fig. 1a) for the purpose of providing high stopband rejection (col. 1, lines 4-5).

We disagree with these allegations from the Examiner regarding claim 7. The Examiner has merely repeated his previous rejections without adequately addressing our previous arguments.

As argued before, and amplified further herein, applicant respectfully submits that Vorenkamp merely discloses a dual or double conversion receiver that allows distortion and stability to be controlled when a received signal is first mixed to a first intermediate frequency and then mixed down to a second intermediate frequency (see page 7, paragraph 118). However, the mixed down to a second intermediate frequency is a signal received from an amplifier and not from "a SAW filter." There is nothing in Vorenkamp that discloses "a SAW filter for selecting the first intermediate frequency signal output from said up converter" and then the selected signal from the SAW filter is converted by "a down converter" to a "second intermediate frequency signal of lower frequency for output."

Applicant also submits that Shahar does not make up for the deficiencies of Vorenkamp. Shahar discloses a SAW filter to lower

cost. However, the SAW filter in Shahar does not select a "first intermediate frequency signal output from said up converter" so that a down converter converts "the first intermediate frequency signal selected by said SAW filter to a second intermediate frequency signal of lower frequency for output."

Moreover, applicant submits that Johannes fails to make up for the deficiencies of both Vorenkamp and Shahar. Johannes merely discloses a SAW resonator filter in mobile phones as an interfrequency filter for stopband rejection. In other words, applicant fails to see how Vorenkamp, Shahar, and Johannes, either alone or in combination, teach or suggest the claimed SAW filter as set forth in the claimed invention. Applicant believes that the Examiner is merely using applicant's invention as a road map to pick and choose features from different sources and paste the chosen features together to arrive at the claimed invention, even though the references relied upon do not provide any teachings, suggestion or motivation for making the combination/modification. In U.S. patent law, this is improper and impermissible hindsight reconstruction using applicant's own invention as a motivation.

Based on our review of Abe, Davis, Vorenkamp, Shahar, and Johannes, applicant fails to find any motivation to combine the references to have a receiving unit, in a cable modem tuner, that includes an up converter for converting said down signal to a first intermediate frequency signal of higher frequency, a SAW filter for selecting the first intermediate frequency signal output from said

up converter, and a down converter converting the first intermediate frequency signal selected by said SAW filter to a second intermediate frequency signal of lower frequency for output.

To establish a *prima facie* case of Obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

Applicant respectfully submits that from our review of the cited references, we find no teaching or suggestion to support the examiner's asserted motivation to combine the references. The examiner's statement that automatically maintaining a predetermined overall gain in a cable modem upstream transmitter (see Office Action, page 6) is unsupported because the examiner has not established that this is a factor recognized by all of the references cited.

Applicant respectfully submits that but for applicant's own disclosure of the specific elements involved, i.e., their sizing, their number, and their interrelationship with one another, the applied references themselves would not have instructed one versed in the art on how to go about selectively reworking and modifying the cited references to yield applicant's claimed cable modem tuner. Accordingly, applicant submits that the Examiner's rejection is predicated upon impermissible hindsight, and not upon a suggestion from the combination of the references applied that would have been derivable by one versed in the art from the references themselves.

Applicant respectfully submits that not only does the references fail to teach or suggest each and every feature as set forth in the claimed invention, but that one of ordinary skill in the art would not have been motivated to combine/modify the teachings of the cited references because there is no teaching or suggestion in any of the references regarding how or why one would modify such systems to arrive at the claimed invention.

Applicant respectfully submits that independent claims 1 and 7 are allowable over the cited references for at least the reasons noted above.

Accordingly, withdrawal of the rejection of claims 1 and 7 under 35 U.S.C. §103(a) is respectfully requested.

Conclusion

In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Carolyn T. Baumgardner (Reg. No. 41,345) at (703) 205-8000 **to schedule a Personal Interview**.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment from or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17; particularly, the extension of time fees.

Respectfully submitted,

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